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REPORTS ON THE MARGARET M. CARY-CARNEGIE MUSEUM
EXPEDITION TO BAJA CALIFORNIA, MEXICO, 1961

5. Two new subspecies of HesperIIDae (Lepidoptera)
from the Cape region, Baja California Sur, Mexico

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This is the fifth of a series of papers based on the Margaret M. Cary-Carnegie Museum Expedition to Baja California, Mexico, 1961, to appear in the Annals of Carnegie Museum. For an account of the itinerary and description of localities, see the first paper in this series [Richard M. Fox, Ann. Carnegie Mus., 36 (16): 181-192]. Except as noted, all specimens including type series are in the collection of Carnegie Museum.

In his review of the HesperIIDae of Baja California one of us (MacNeill, 1962) recognized the existence of endemic subspecies of three Cape region hesperiids *Cogia hippalus* (Edwards), *Polites sabuleti* (Boisduval), and *Paratrytone melane* (Edwards) — but did not name them because there was not enough material. As a result of the collections made by the Cary-Carnegie Expedition, good series are now at hand to describe subspecies of *Cogia hippalus* and *Polites sabuleti*. The montane *Paratrytone melane* population was not taken.

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***Cogia hippalus peninsularis*, new subspecies**

Figures 1 (male holotype), 2 (female paratype),
7 (male genitalia)

MALE: Head, thorax, and abdomen brown above, paler below. Palpi dark brown above and pale gray below. Antennae brown above, shaft yellow below, ringed with brown; club completely encircled with brown basad of nudum. Legs scaled with light brown. Upper surface of wings much like *C. h. hippalus* (Edwards), but the spots on the forewings are larger, particularly those in spaces M₃-Cu₁ and Cu₁-Cu₂, which often are as broad as they are long. On the under surface of the hindwings the dark bands are very broad and often connected in space Cu₁-Cu₂. This connection is never present in specimens of the nominate subspecies. There is no whitish bloom marginad of the discal band on the hindwings beneath in *C. h. peninsularis*. This band is characteristic of *C. h. hippalus*. The fringes of the forewings are grayish-brown with dark-brown checkering at the ends of the veins, paler gray near the anal angle. The fringes of the hindwings are whitish, completely interrupted by dark-brown checkering. The male genitalia are indistinguishable from those of *C. h. hippalus*. Length of the forewing of the male holotype is 19.0 mm.; the forewings of the eighteen male paratypes range from 19.0 to 23.0 mm., averaging 20.2 mm.

FEMALE: Generally differs from *C. h. hippalus* in the same particulars as does the male. The forewing cell spots of one specimen are divided like Arizona specimens of the nominate subspecies. In all other specimens of *C. h. peninsularis* these spots are conjoined. The dark bands of the hindwings beneath, while broader than those of mainland material, are not as broad as in the males and never connected across space Cu₁-Cu₂. Lengths of the forewings of the five female paratypes range from 19.0 to 23.0 mm., averaging 21.2 mm.

Described from 24 specimens, 19 males, and five females, from the Cape region of Baja California Sur and the adjacent island of Espiritu Santo.

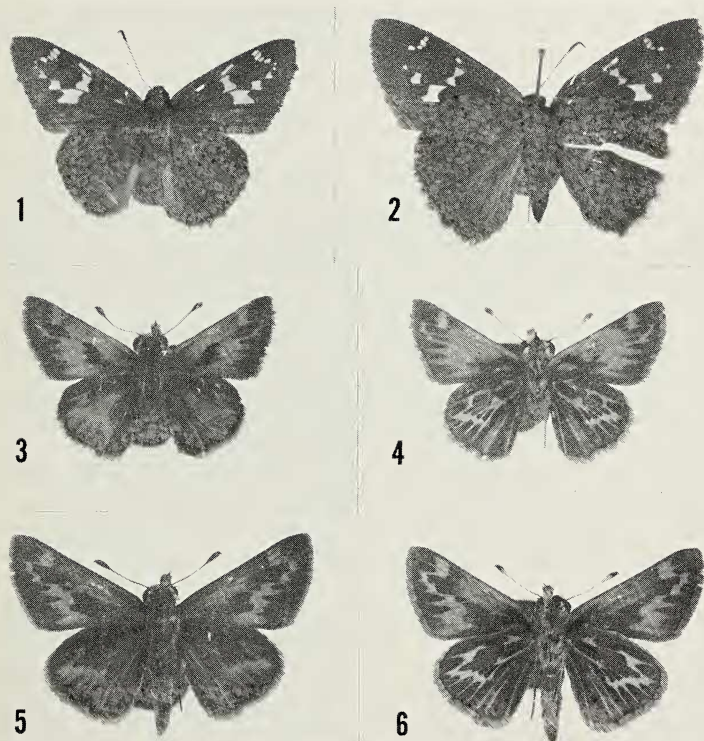
HOLOTYPE MALE: Mexico: Baja California Sur: Arroyo San Bartolo, Nov. 3, 1961, Cary-Carnegie Expedition (Lee D. Miller), ♂ genitalia slide M-1208.

PARATYPES: Mexico: Baja California Sur: La Paz: Guaycura Hotel grounds, Nov. 6, 1961, 1 ♂. Baja California Sur: Rancho Vinarama, Oct. 23, 1951, 1 ♂ 1 ♀. Baja California Sur: Rancho El Novillo, Oct. 28, 1961, 1 ♂. Baja California Sur: Rancho Palmarito, Oct. 27, 1961, 2 ♂; Oct. 31, 1961, 1 ♂ 1 ♀; Nov. 5, 1961, 1 ♂. Same locality and date as holotype, 1 ♂. Baja California Sur: roadway 5 km. south of Rancho Buenavista, Oct. 25, 1951, 1 ♂ 1 ♀. Baja California Sur: Boca de la Sierra, Nov. 17, 1951, 1 ♂; Nov. 18, 1961, 1 ♂. Baja California Sur: 4 mi. south of Arroyo Candelaria, Oct. 26, 1961, 1 ♂ 1 ♀; Nov. 24, 1961, 1 ♂. All foregoing collected by Cary-Carnegie Expedition. Baja California Sur: 15 mi. south of La Paz, Aug. 31 1959 (K.W. Radford and F.G. Werner), 2 ♂. Baja California Sur: Candelero Bay: Espiritu Santo Island, June 30, 1964 (R. Bandar), 3 ♂ 1 ♀.

The holotype male, eleven male and three female paratypes are deposited in Carnegie Museum. Three male and one female paratypes are deposited in the California Academy of Sciences. Four male and one female paratypes are deposited in the collection of C. Don MacNeill.

This subspecies is not the one mentioned by MacNeill in a previous paper (1962:98). The specimen he recorded in 1962 was a male from the Sierra de la Victoria, whereas the present subspecies seems to be restricted to the lowlands. It is probable that the population MacNeill cited represents yet another peninsular *C. hippalus* subspecies.

C. h. peninsularis is rather widespread throughout the Cape region in the better watered places. It does not occur in the most arid desert, and even where it is present it is never abundant. This butterfly has about the same habits as typical members of *C. hippalus* in Arizona.



Figs. 1, 2. *Cogia hippalus peninsularis*, new subspecies. Fig. 1, upper surface of holotype ♂, Arroyo San Bartolo, Baja California Sur, Nov. 3, 1961. Fig. 2, upper surface of paratype ♀, Rancho Vinarama, Baja California Sur, Oct. 23, 1961.

Figs. 3-6. *Polites sabuleti margaretae*, new subspecies. Fig. 3, upper surface, and fig. 4, under surface of holotype ♂, S.E. shore of La Paz harbor, Baja California Sur, Dec. 6, 1961. Fig. 5, upper surface, and fig. 6, under surface of paratype ♀, same locality and date.

***Polites sabuleti margaretae*, new subspecies**

Figures 3, 4 (male holotype), 5, 6 (female paratype),
8 (male genitalia)

MALE: Head, thorax, and abdomen dark brown clothed with fulvous and brown scales above and golden-fulvous ones below. Palpi fulvous above and pale ochreous below. Antennae brown, heavily intermixed with fulvous except on the nudum. Legs heavily scaled with golden-fulvous in fresh specimens. Upper surface of wings marked about as in *P. s. sabuleti* (Boisduval), but the fuscous borders are broader, darker, and more clearly defined. Stigma slender, its width about equal throughout its length so that its baso-costal margin is as angular-sigmoid as its anal margin. The fulvous and fuscous areas of the upper surface are darker than in the nominate subspecies, more closely approximating the shades seen in *P. s. tecumseh* (Grinnell), but the fulvous is richer with reddish tones. The under surface is much darker than in any previously described subspecies. The forewings have the fuscous border of the upper surface completely reproduced on the under side with no apical fulvous shading as in other subspecies, and a well defined basal dark area connected to the marginal border along the inner margin. The hindwings below are rich chocolate brown heavily overscaled in fresh specimens with yellow scales, particularly in the area of the anal veins. The other veins are lightly, but distinctly, indicated by yellow scaling, and the yellow discal spots are much reduced, resulting in a narrow, but clearly defined, discal band that is unique in populations of *P. s. sabuleti*. The basal yellow loop on the under surface of the hindwings is obsolescent and represented only by yellow bars on either side of the cell. The male genitalia are identical with those of the nominate subspecies. Length of forewing of the male holotype is 12.0 mm. The 32 male paratypes have forewing lengths between 11.0 and 13.0 mm., averaging 12.1 mm.

FEMALE: Head, body, and appendages as in the male. The upper surface of the wings is similar to that of *P. s. sabuleti*, but of a deeper color, and the fulvous markings are reduced. The contrast between the dark borders and fulvous discal markings is greater in *P. s. margaretae* than in the other nominate subspecies. The under surface is as that described for the male. The forewing lengths of the 23 female paratypes range from 12.5 to 15.0 mm., averaging 13.8 mm.

Described from 56 specimens, 33 males and 23 females, from the southeastern shore of La Paz harbor, Baja California Sur.

HOLOTYPE MALE: Mexico: Baja California Sur: southeastern shore of La Paz harbor, Dec. 6, 1961, Cary-Carnegie Expedition (Lee D. Miller), ♂ genitalia slide M-1206.

PARATYPES: Same locality as holotype, Nov. 8, 1961, 3♂ 1♀; Nov. 10, 1961, 1♂ 7♀; Dec. 5, 1961, 12♂ 5♀; Dec. 6, 1961, 16♂ 10♀. All collected by Cary-Carnegie Expedition.

The holotype male, 25 male and 15 female paratypes are deposited in Carnegie Museum. Four male and four female paratypes are deposited in the California Academy of Sciences. Four male and four female paratypes are deposited in the collection of C. Don MacNeill.

We take great pleasure in naming this beautiful skipper for Mrs. Margaret M. Cary of Philadelphia, Pennsylvania, whose generosity made possible the Cary-Carnegie Expedition and whose work on the

American Sphingidae has so greatly enriched our knowledge of that group.

This is the subspecies of *P. sabuleti*, discussed but not named by MacNeill (1962: 109), from the Cape region. It is by far the darkest and most distinctly marked of any of the subspecies and may be readily distinguished by the slender angled stigma of the males above and by the narrow discal band, pale veins, chocolate-brown ground color, and obsolete basal loop on the under surface of the hindwings.

The population described is from a narrow strip of the coastal grassland just inland from the *Salicornia* flats, but seaward of the more typical desert scrub. This area is intermittently flooded by storms and abnormally high tides, but the usual tides do not reach it. The unidentified grass with which *P. S. margaretae* is associated is apparently moderately tolerant to salt water (there are some salt deposits on the ground where the grass is growing) but cannot survive the daily flooding of the normal intertidal zone; we saw no examples of the grass in the tidal basin proper.

The butterflies seldom stray far from the grass but visit the associated flowers regularly. The flight of these skippers is erratic and close to the ground. This is particularly true of the females, which are most commonly found in the clumps of grass. The males are very alert, frequently darting at and chasing others of their own species.

P. s. margaretae is notably local and was found in no other coastal area sampled by the expedition. It should be sought elsewhere in suitable habitats in the Cape region, however.

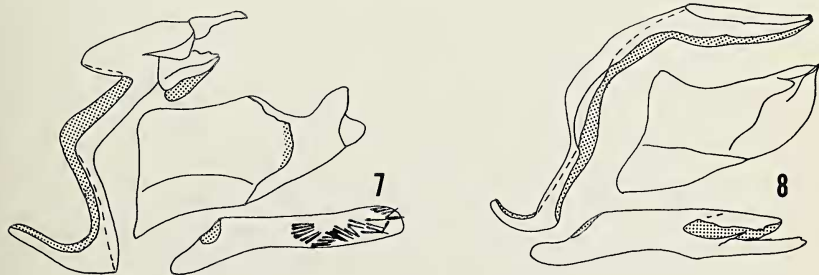


Fig. 7. *Cogia hippalus peninsularis*, new subspecies, ♂ genitalia of holotype.

Fig. 8. *Polites sabuleti margaretae*, new subspecies, ♂ genitalia of holotype.

REFERENCES CITED

MACNEILL, C.D.

1962. A preliminary report on the Hesperidae of Baja California (Lepidoptera). Proc. California Acad. Sci., (4) 30 : 91-116.